N° 8983 A.D. 1901

*Date of Application, 1st May, 1901—Accepted, 5th Oct., 1901*

## COMPLETE SPECIFICATION.

# Improvements in Spray Distributing Apparatus.

We JOHANNES REITZ, Student of Medicine, of No. 13 Goethe Strasse, and ERNST JULIUS THALER, Doctor of Medicine, of No. 19 Wörther Strasse, both in the City of Munich, in the Kingdom of Bavaria, in the German Empire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The subject of the present invention is a spray distributor by means of which the liquid being sprayed can be distributed to such a distance that even the more distant parts of the room receive the disinfecting spray, or liquid to be inhaled.

For this purpose above the nozzles of the compressed air and suction tubes of a spray producer there is arranged a cap, hood or shield, adapted to catch up any of the compressed air which attempts to spread itself out laterally, whereby such air is caught up and ejected in the direction of the compressed air tube by the following jet of air. For the purpose of increasing this action the mouths of the nozzles may be given a more or less flattened form, so that the current of compressed air meets an extremely thin jet of liquid, whereby spraying is facilitated.

Two constructions of the apparatus are illustrated in the annexed drawing.

Fig. 1 is a view showing the end portions of compressed air and suction tubes in conjunction with the cap, here shown in section.

Figs. 2, 3 and 4 are end views showing three different forms of nozzle.

Fig. 5 is a vertical sectional view of an inhalation apparatus operated by compressed air.

According to the present invention, at the place where the two nozzles of the spray—which may be of any suitable construction—meet, a covering cap, hood or shield *o* is applied. The nozzles of the suction tube *m* and compressed air tube *p* are preferably provided with flattened openings, such as Figs. 2, 3 and 4 shows. These orifices are so located relatively to one another that the compressed air issues directly against a broad band of liquid.

Any portion of the compressed air which on leaving the tube *p* endeavors to escape laterally, is caught up by the cap *c* within which a whirl is formed, which is then ejected in the direction of the arrow (Fig. 1) by the following current of compressed air issuing from the nozzle.

With the apparatus driven by compressed air shown in Fig. 5, the action of the spray distributor nozzle can be still further increased by means of a fan.

Into the receptacle *a*, containing the liquid to be sprayed and the suction tubes *m*, the compressed air supply pipe *c* enters from above and is furnished below with a closed funnel or like shaped end *d*. Projecting from the funnel sides the compressed air nozzles *p* are provided, meeting the suction tube nozzles at a suitable angle and covered by the cap *o*.

In this apparatus also, the nozzles of the tubes *m* and *p* are preferably given a flat or elliptical form for the purpose of increasing the suction effect. On the compressed air pipe *c* there is mounted a fan *i*, one or more apertures *g* being provided in the pipe to enable the compressed air to drive it.

Instead of compressed air any other suitable gas under pressure, such as steam, may be employed as distributing agent.

[*Price* 8*d*.]

In the drawing the cap or hood *o* is shown soldered to the distributing tube *p*, but it will be clear that the cap may be held in the desired position in other manner. Moreover, although the shape of cap illustrated will probably be that most generally employed, it is obvious that such form may be varied without departure from the essential feature of the invention.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. A spraying apparatus consisting of a suction tube and a distributing tube, and a cap or hood covering the nozzles of said tubes, substantially as and for the purposes described.
2. A form of the apparatus set forth in Claim 1, according to which the cap, open below, is carried by the distributing tube, substantially as described.
3. A form of the apparatus set forth in Claims 1 and 2, according to which the suction and distributing tubes are furnished with flattened or elliptical orifices, substantially as and for the purposes described.
4. A form of the apparatus set forth in Claims 1—3, according to which a fan is mounted on the distributing tube, one or more apertures being provided in the latter for the exit of the distributing agent for the purpose of driving the fan, substantially as and for the purposes described.
5. A form of the apparatus set forth in Claims 1—4, according to which the distributing tube carrying the fan is provided with a closed funnel shaped or similarly enlarged end provided with the distributing nozzles, substantially as described.

Dated this 1st day of May 1901.

BOULT, WADE & KILBURN,
Agents for Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Malcomson & Co., Ltd.—1901.

WELLCOME LIBRARY INSTITUTE

A.D. 1901 MAY 1. No 8983.

REITZ & *another's* COMPLETE SPECIFICATION.

(1 SHEET)

FIG. 1.

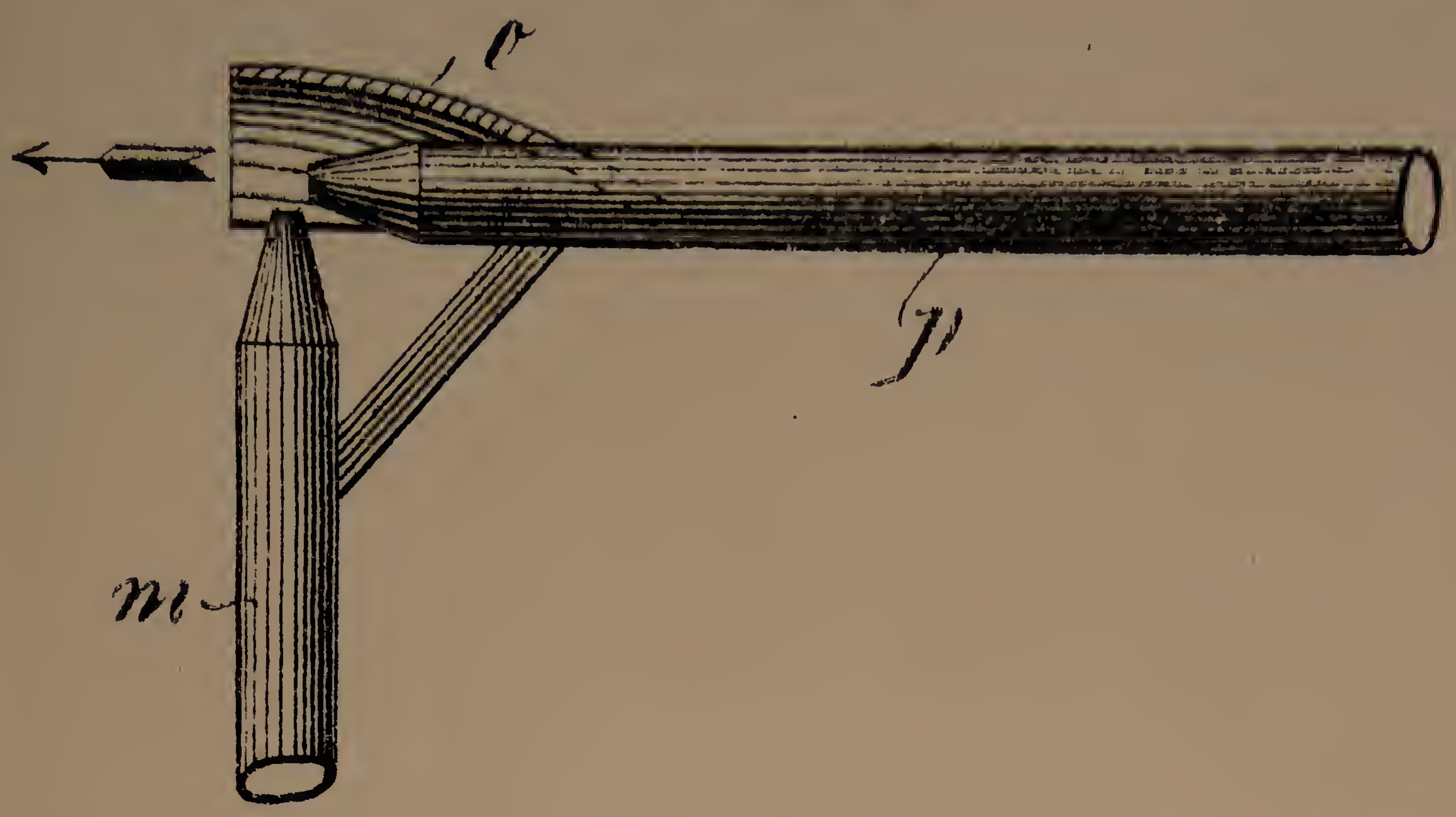


FIG. 2.

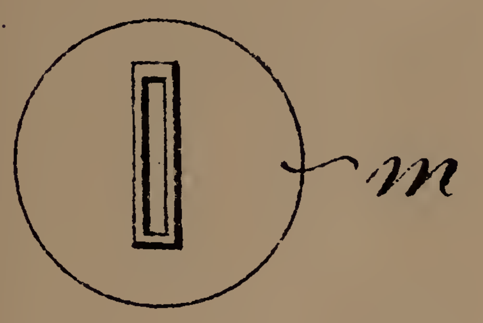


FIG. 3.

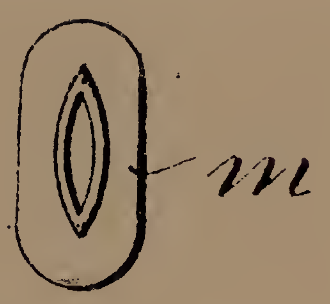


FIG. 4.

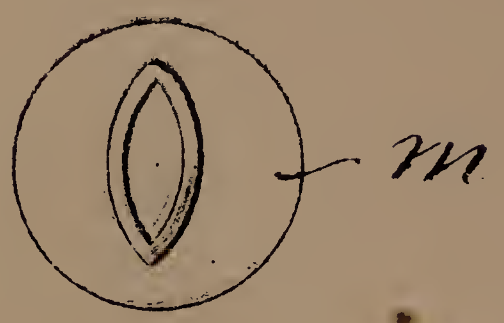
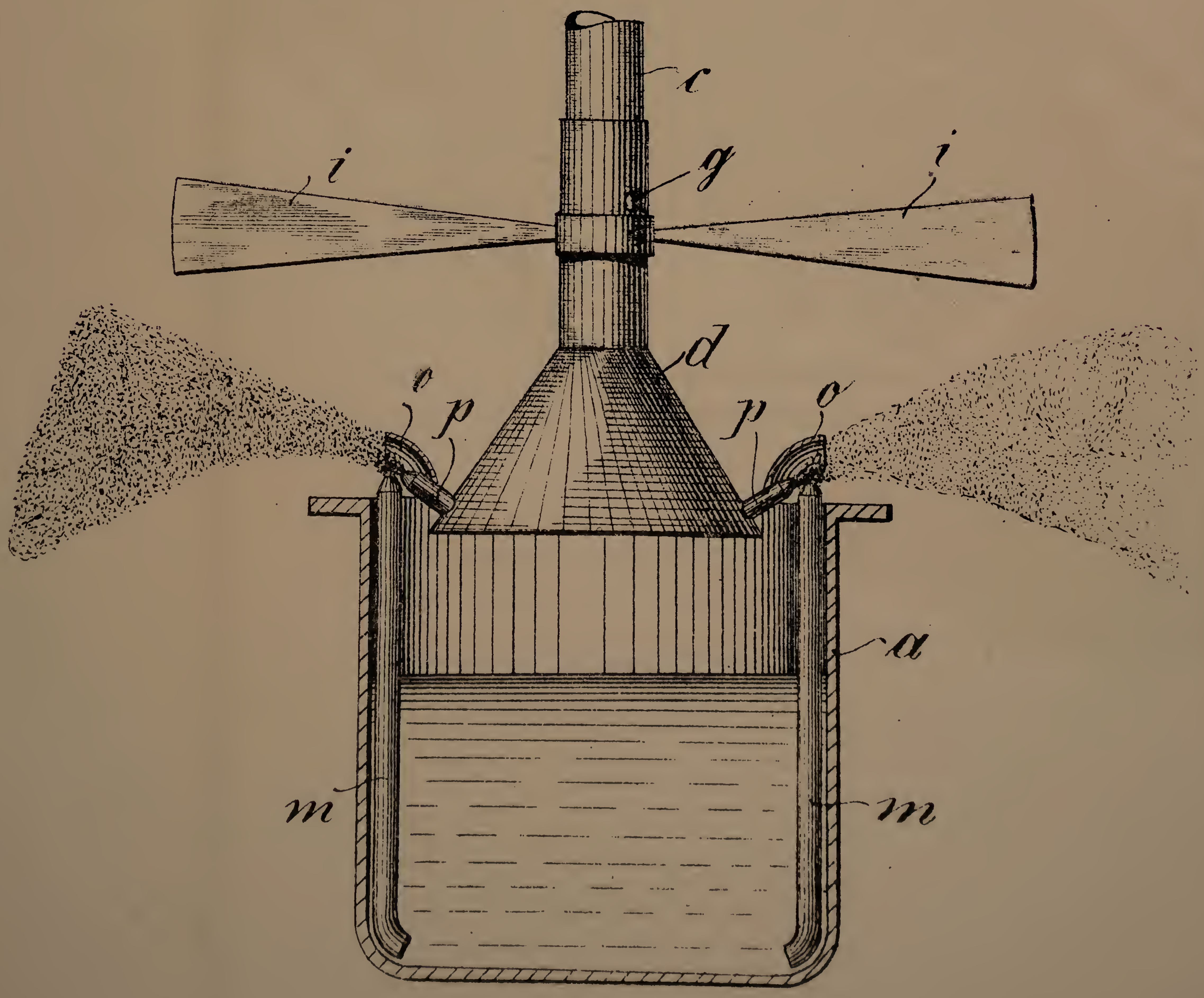


FIG. 5.



[This Drawing is a reproduction of the Original on a reduced scale]

Malby&Sons, Photo-Litho.